CLAIMS

1. Assay device which allows the presence of analytes to be detected in a liquid dairy product by tangential capillary migration of the said dairy product, comprising a solid support (1) which has a first and a second end and on which the following membranes are fixed in succession starting from the first end:

- a membrane (2) allowing the analysed liquid to be purified,
- a membrane (3) on which one or more capture substances are immobilized, and
- an absorbent membrane (4),

characterized in that the membrane (2) is capable of retaining the substances present in the dairy product which prevent the analytes, which may be present in the dairy product and the detection reagents used in accordance with the practised method, from migrating over the assay device during the tangential capillary migration of the sample after the first end of the assay device has been soaked in the analysed dairy product.

2. Device according to Claim 1, characterized in that the membrane (2) is the Leukosorb membrane.

3. Assay device according to Claim 1 or 2, characterized in that it additionally possesses a membrane (5) on which at least one detection reagent has been deposited, the membrane (5) being situated before the membrane (3).

4. Assay device according to Claims 1 to 3, characterized in that the membranes are covered fully or partially by an adhesive plastic film (6).

5. Assay device according to Claim 4, characterized in that the plastic film (6) does not cover the first few millimetres of the assay device.

6. Assay device according to Claims 1 to 4, characterized in that it is located in a plastic box having an aperture in the form of a basin above the membrane (2) and a window aperture above the membrane (3).

7. Process for detecting analytes in a liquid dairy product, using an assay device according any one of Claims 1 to 6, and detection reagents, and comprising the following steps:

a) the bringing into contact of a defined volume of dairy product with the assay device according to the present invention, this contact taking place at the first end of the assay device,

b) the tangential migration, by capillarity, of the dairy product over the assay device such that the analytes and the detection reagents which may be present in the dairy product pass gradually over the membrane (2), then the membrane (3), and such that the constituents of the dairy product which are not stopped by the membranes (2) and (3) end up in the membrane (4), and

c) the determination of a fixation on the membrane (3).

8. Process according to Claim 7, characterized in that the detection reagents comprise at least one substance capable of recognizing specifically the analyte or an analogue substance of this analyte and at least one labelling agent.

9. Process according to Claim 8, characterized in that at least one substance capable of recognizing specifically the analyte or an analogue substance of this analyte is coupled with at least one labelling agent.

10. Process according to Claim 8 or 9, characterized in that the labelling agent is fluorescent, particulate, radioactive, luminescent or enzymatic.

11. Process according to Claims 7 to 10, characterized in that at least one detection reagent is added before step a).

12. Process according to Claim 11, characterized in that the mixture prepared before step a) is maintained under incubating conditions which allow one of the detection reagents to form a stable and essentially irreversible complex with the analyte or an analogue substance of this analyte.

13. Process according to Claims 8 to 12, characterized in that the detection reagents additionally comprise at least one reference substance.

14. Process according to Claims 7 to 13, characterized in that the analyte is a tetracyclin, such as tetracyclin, oxytetracyclin or chlortetracyclin.

15. Process according to Claims 7 to 13, charcterized in that the analyte is, on the one hand, an exogenous protein of the liquid dairy product, such as for example a foreign protein, or, on the other hand, an endogenous protein of the dairy product, for example an hormone such as progesterone or the growth hormone.

16. Process according to Claims 7 to 13, characterized in that the analyte is an antibiotic being a β-lactam ring.

17. Process according to Claims 7 to 13, characterized in that the analyte is selected from the group consisting of benzylpenicillin (penicillin G), ampicillin, amoxicillin, carbenicillin, methycillin, cloxacillin, 6-APA, monolactam, aztreonam, mecillinam, cephalexin, cephaloglycine, cephaloridine, nitrocephin, cefatoxime, defuroxime, ceftiofur, cephapirin, 7-ACA.

18. Process according to Claims 8 to 17, characterized in that the substance capable of recognizing specifically the analyte or an analogue substance of the analyte is selected from receptors capable of forming a stable and essentially irreversible complex with the analyte or an analogue substance of the analyte and monoclonal or polyclonal antibodies specific for the analyte or for an analogue substance of the analyte.

19. Process according to Claim 18, characterized in that the substance capable of recognizing specifically the analyte or an analogue substance of the analyte is a receptor obtained from an antibiotic-sensitive microorganism, such as the receptors obtained from Bacillus, Streptococcus or Actinomycetes species.

20. Process according to Claims 18 or 19, characterized in that the substance capable of recognizing specifically the analyte or an analogue substance of the analyte is a receptor sensitive to antibiotics having a ß-lactam ring, obtained from Bacillus licheniformis.

21. Process according to Claim 20, characterized in that the receptor sensitive to antibiotics having a ß-lactam ring and obtained from Bacillus licheniformis is the receptor BlaR or the receptor BlaR-CTD.

22. Process for preparing an assay device according to any one of Claims 1 to 6, characterized in that cards are prepared from the solid support (1) covered with an adhesive and from membranes by means of a laminator, in that the capture solutions are deposited on the membrane (3) and in that the cards are then cut into strips, each of these strips constituting an assay device.

23. Assay kit comprising an assay device according to Claims 1 to 6.